Andrew Chu

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EDUCATION

University of Waterloo   Expected 2028
Bachelor of Computer Science, Honours Co-op Program, 3.94 GPA   *Waterloo, ON*

SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, TypeScript, Go, Dart, Sass, R, Haskell
Web Frameworks: React, Flask, TailwindCSS, SvelteKit, Firebase, Express.js, MongoDB, Mocha, FastAPI, Next.js
Data Frameworks: NumPy, SciPy, MNE
Developer Tools: Google Cloud, Linux, Git, GitHub, Node, Figma, Docker, AWS, VS Code

WORK EXPERIENCE

Data Engineer Intern   Aug. 2024 - Sep. 2024
Alljoined   *Toronto, ON*
- Implemented an event logging system in **Python**, identifying critical timing precision issues with EEG data
- Reduced variation in length of condition presentation by **95%**, achieving a consistent accuracy within **10 ms.**
- Performed artifact correction and statistical testing using **MNE**, **NumPy**, and **SciPy** libraries

Full-Stack Developer   Sep. 2022 - Jan. 2023
Digitera Interactive   *Richmond Hill, ON*
- Contributed to the "Skule News" project, a school news app to streamline communication among students
- Reduced frequency of in-app crashes by identifying and resolving outdated **Firebase** queries in the backend
- Developed image thumbnail preview UI when uploading or editing articles in **Flutter**, improving user experience
- Designed and tested **150+** lines of **Firebase Rules** to provide secure database access for 3 user privilege levels

Centre Assistant   Aug. 2022 - Jul. 2024
Kumon Institute Education   *Richmond Hill, ON*
- Boosted academic performance in 200+ students by providing personalized K-12 math and reading instruction
- Marked student's work efficiently, allowing for timely feedback of academic performance for 100+ students daily
- Automated weekly tasks with **Python** including student performance reporting, reducing chance of manual errors

PROJECTS

EasyMeet | *React, Firebase, TailwindCSS, Mocha, GitHub Actions, CI/CD, Figma*   Jan. 2025
- Developed and deployed a mobile-friendly meetup scheduling website in **React**, deployed live at **easymeet.ca**
- Designed and tested **Cloud Firestore** to protect user data while providing a no-password user experience
- Automated unit testing and deployment to support **CI/CD** practices with **Mocha** and **GitHub Actions**

Tiny Raytracer | *C++, Go*   Dec. 2024
- Developed Tinyraytracer, a proof-of-concept raytracer written in **Go** and **C++** for rendering geometric objects
- Implemented lighting effects such as specular lighting, refraction and reflection using the Phong reflection model

Baseline | *Python, FastAPI, SciPy, NumPy, MNE, Matplotlib, React, TailwindCSS, Jupyter*   Oct. 2024
- Developed Baseline, a neurotech application that uses EEG data to analyze fatigue levels in real-time
- Achieved **2nd Place in "Best in Neurotech"** category at Hack49
- Utilized industry tooling including **MNE, SciPy,** and **NumPy** to process brain waves in under **one second**
- Designed user dashboard in **React** for interpreting brain wave data with graphics made with **Recharts**

The Spyglass Website | *SvelteKit, TypeScript, TailwindCSS, GitHub*   Jul. 2024
- Redesigned website for school magazine with responsive web design principles and usability in mind
- Optimized experience on mobile site to follow human-interaction principles such as Fitt's Law and Rule of Thumb

Eyedentify | *Python, Flask, React, MediaPipe*   Mar. 2023
- Developed a facial recognition attendance tracker achieving **2nd Place and "Best Web App"** at YRHacks 2023
- Designed intuitive interface for users, capable of identifying and labeling faces in a picture all at once
- Implemented a **Flask** backend for photo analysis and utilized **React** for a reactive frontend interface